Claims

We claim:

1. A media access control protocol for a network including a plurality of nodes connected to each by a single shared wireless communications channel, the protocol for each node comprising:

monitoring, in each node, the channel for a period of time equal to at least a length of a frame;

partitioning the frame into a plurality of time slots;

marking a particular time slot as occupied if the channel has a carrier signal during the time slot and otherwise marking the time slot as available;

transmitting a packet only if the time slot is marked available.

2. The method of claim 1, in which the nodes are sensor nodes.

3. The method of claim 1, in which the network is ad-hoc.

4. The method of claim 1, in which the packet is transmitted periodically.

5. The method of claim 2, in which the packet is transmitted in response to a sensed event.

6. The method of claim 1, in which the time slots of the frames of the nodes are time synchronized.

7. The method of claim 1, in the channel is monitored and the marking of the time slots are updated periodically.

8. The method of claim 1, in which the monitoring is passive.

9. The method of claim 1, in which the marking only requires information acquired by monitoring the channel.

10. The method of claim 1, in which different nodes transmit packets at different rates.

11. The method of claim 1, in which the monitoring reveals identities of the plurality of nodes in the network.